REMARKS

The Office Action dated July 11, 2006 has been carefully considered. Claims 1, 3, 5, 7 and 8 have been amended. Claims 2 and 6 have been canceled. Claims 9-11 have been added. Claims 1, 3-5, 7, and 8-11 are in this application.

Amended claim 1 includes the limitations of original claim 2. Amended claim 5 includes the limitations of canceled claim 6. Support for new claim 9 is found throughout the specification and in particular on page 32, lines 10-15. Support for new claim 10 is found throughout the specification and in particular on page 33, lines 25-31. Support for new claim 11 is found throughout the specification and in particular on page 6, lines 2-30. No new matter has been entered.

The Abstract of the Disclosure and the specification were amended to correct errors. No new matter has been entered.

Claims 5-8 were rejected under 35 U.S.C. § 112 as indefinite. Claim 5 has been amended to obviate the Examiner's rejection. Claims 7 and 8 depend from claim 5. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 1 was rejected under 35 U.S.C. § 102 as anticipated by U.S. Patent No. 5,734,075 to Fauconet et al. Applicants submit that this reference does not teach or suggest the limitations of amended claim 1.

Fauconet et al. disclose a process for the recovery of the light-nobel products present in the combined distillation residues from the processes for the manufacture of the acrylic acid to its esters. (*See* col. 4, lines 33-65, see also claim 7). Fauconet et al. teach recycling of waste water back to the process for acrylic ester formation (col. 4, lines 52-58). Fauconet et al. also teach the use of a conventional removal treatment of the residual oils (col. 4, lines 63-65).

In contrast to the invention defined by the present claims, Fauconet et al. do not teach or suggest the step of combusting a mixed liquid of at least one waste material selected from waste oil and waste water emitted from both a process for production of acrylic acid and a process for production of acrylic ester jointly. Accordingly, the invention defined by the present claims is not anticipated by Fauconet et al.

Claims 1-8 were rejected under 35 U.S.C. § 103 as obvious in view of Fauconet et al. in combination with U.S. Patent No. 4,618,709 to Sada et al.

As described above, the feature of the present invention resides in the combustion of the mixed liquid of the waste oil and waste water emitted from both a source of acrylic acid production step and esters of acrylic acid production step jointly. Fauconet et al. do not disclose or suggest the step of combusting a mixed liquid of at least one waste material selected from waste oil and waste water emitted from both a process for production of acrylic acid and a process for production of acrylic ester jointly. As described on page 4, line 18 to page 5, line 4, generally, when waste oil discharged in a process for the production of acrylic acid is burnt, since acrylic acid has high viscosity, the waste oil disposed of by the combustion tends to clog the piping of the combustion furnace. When the waste oil is used as the fuel for disposal by incineration, the incineration suffers from such problems as encountering difficulty in ensuring just enough supply of the fuel and entailing possible excess generation of combustion energy. It is further at a disadvantage in inducing the incinerator to form a deposit on the inner wall thereof and consequently causing the incinerator to undergo accelerated deterioration and, when the waste gas arising from the incineration is burnt by itself, causing the heat exchanger used for burning to yield to corrosion readily and rendering the combustion itself difficult to carry out. The waste gas, similarly to the waste liquid, has the possibility of forming a deposit on the inner wall of the heat exchanger and consequently curtailing the service life of the heat exchanger.

The present invention has been initiated with a view to solving the above-described problems and is aimed at providing a method for enabling the waste gas, waste oil and waste water emitted from the process for production of acrylic acid and the waste gas, waste water and waste oil emitted from the process for production of acrylic acid, acrylic ester and/or polyacrylic acid and /or the salt thereof to be purified in high degree and disposed jointly. It has been found that by simultaneously disposing of the waste material from the process for production of acrylic acid and the process for production of an acrylic ester, it is made possible to decrease the total fuel required for the combustion, impart an increased service life to the apparatus for the disposal and simplify the operation of treatment as well through adjustment of the solid state physical

properties of the waste materials and cut the load on the environment. There is no teaching or suggestion in Fauconet et al. of this method.

Sada et al. disclose a process for the separation of methacrylic acid from a methacrylic acid-containing gaseous reaction mixture by producing a condensed liquor from which waste water is evaporated and the evaporated subjected to catalytic combustion. See Abstract, lines 1-25. Sada et al. teach the catalytic combustion of evaporated waste-water and combustion of the resulting waste oil (containing some of the residual waste water) in a furnace (see col. 8, lines 5-16). Sada et al. also teaches the combustion of the evaporated waste water and the treatment of the remaining waste oil (presumably containing residual waste water) by a wet oxidation process (see col. 5, lines 42-53).

However, Sada et al. teach to burn the waste as and waste water form only a process for production of methacrylic acid, but Sada et al. do not teach or suggest a step of combusting a mixed solution from both processes for production of methacrylic acid and methacrylic esters. In contrast, according to the present invention, the waste oil and waste water from the process for production of methacrylic acid which are difficult to be burnt are combusted as a mixture of water oil and/or waste oil with waste oil and/or waste water from the process for production of the esters of methacrylic acid. Thus, in the present invention, the waste oil and waste water can be easily combusted. There is no teaching or suggestion of these features in Sada et al. In addition, with regard to claim 5, Sada et al. do not teach or suggest a method for the disposal of waste material emitted from a process for production of polyacrylic acid and/or the salt thereof, which comprises the steps of mixing at least one waste material selected from the group consisting of waste oil, waste water, and waste gas emitted from a process for production of acrylic acid and at least one waste material selected from the group consisting of waste oil, waste water, and waste gas emitted from a process for production of an acrylic ester jointly, and combusting the mixture thus formed. Thus, Sada et al. do not cure the deficiencies of Fauconet et al. described above. Accordingly, the invention defined by the present claims is not obvious in view of Fauconet et al. in combination with Sada et al. since neither reference teaches simultaneously disposing of the waste material from the process for production of acrylic acid and the process for production of an acrylic ester.

In view of the foregoing, Applicants submit that all pending claims are in condition for allowance and request that all claims be allowed. The Examiner is invited to contact the undersigned should he believe that this would expedite prosecution of this application. It is believed that no fee is required. The Commissioner is authorized to charge any deficiency or credit any overpayment to Deposit Account No. 13-2165.

Respectfully submitted,

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